Edgewood Area - Aberdeen Proving Ground, Maryland 21010-5424
U.S. Army Soldier and Biological Chemical Command

Transportable Glovebox and Filtration System for Mobile Analytical Laboratory

The *Glovebox and Filtration System for Mobile Analytical Laboratory* is a self-contained and transportable apparatus to be used to receive unknown materials of possible toxic or harmful nature for analytical screening and classification. The system can contain the most toxic chemical agents, toxins, and infectious biological materials. The glovebox is ideally used in a mobile van that can be driven to an incident site or parked during an event where it may be needed.

The glovebox, self-contained and trans-portable, is used for physical examination of unknown material and further analyses with a wide range of protocols, assay kits or analytical instruments. The system consists of:

- An isolation container with a view plate and glove ports
- A double door airlock for objects to be passed into or out of the isolation container
- A dunk tank to also allow objects to be passed into or out of the isolation container
- A filtration unit

The invention resulted from the need to develop improved technology in support of treaty verification inspections under the Chemical Weapons Convention and in response to incidents that pose a credible threat that chemical or biological warfare agents may be used against the general population or others.

First responders to these incidents generally acquire evidence with little or no reliable information on the makeup of the hazardous substance. Consequently, those first responders must assume that the substance is the most toxic material that is possible within the given scenario until it is proven to be a less toxic material. Most first responders today do their work in the open air, or with improvised engineering controls thus relying on wind direction and individual physical protection for their own safety, and in distance and dilution to ensure the safety of the public.

There is a great need for the welfare of the general public, the protection of the environment, the safety of the first responders. Preservation of the evidentiary value of the collected material to provide safe, reliable, transportable engineering controls that are certified for safe containment and examination of the most hazardous materials known to mankind is also needed.

For additional information, E-mail research.technology@sbccom.apgea.army.mil.

For information on Technology Transfer applications, please contact us by E-mail (technical.outreach@sbccom.apgea.army.mil), or by fax to 410-436-6529.

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